EXHIBIT 2

DEFENDANTS' INVALIDITY CONTENTIONS

APPENDIX D10

Intellectual Ventures II LLC v. FedEx Corp.

Civil Action No. 2:16-cv-00980 (E.D. Tex.)

INVALIDITY CHART FOR U.S. PATENT NO. 8,494,581

AND

U.S. PATENT NO. 6,094,642 TO STEPHENSON ("STEPHENSON")

As shown below, *Stephenson* anticipates U.S. Patent No. 8,494,581 ("*Barbosa*" or the "'581 patent"). Additionally or alternatively, *Stephenson* renders obvious *Barbosa*, either alone or in combination with one or more of the following:

- U.S. Patent No. 6,292,181 to Banerjee ("*Banerjee*")
- U.S. Patent No. 5,589,835 to Gildea ("*Gildea*")
- U.S. Patent No. 6,216,158 to Luo ("*Luo*")
- U.S. Patent No. 6,671,757 to Mutler ("*Mutler*")
- U.S. Patent No. 6,553,375 to Huang ("*Huang*")
- U.S. Patent No. 6,131,116 to Riggins ("*Riggins*")
- U.S. Patent No. 6,321,158 to DeLorme ("*DeLorme*")
- U.S. Patent No. 6,633,900 to Khalessi ("*Khalessi*")
- U.S. Patent No. 6,148,261 Obradovich ("*Obradovich*")
- U.S. Patent No. 5,857,201 to Wright, Jr. ("*Wright*")

The above reference combinations are exemplary only and are not intended to be limiting. For example, *Stephenson* also renders obvious the '581 patent in combination with one or more of the other prior art provided the claim charts in Appendices D01-D09, D11-D14, and/or the prior art provided in Appendix F.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
1. A method, comprising:	Stephenson discloses this feature by disclosing data collection devices including bar code scanning devices, "each having a memory, an informational display, a CPU, a keyboard for inputting information to the device, a power supply, and one of an infrared communications port and a

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
using a handheld device	microradio." *See*, *e.g.*, Stephenson, Abstract; Figs. 1-12; 1:5-12:55; Claims 1-43; *see also*, *id.* at 2:47-67, 4:10-39, 5:44-59. Exemplary data collection devices disclosed in Stephenson include FedEx's enhanced Supertracker and PowerPad devices. (2:47-67) The present invention also includes an integrated data collection and transmission system having one of a common infrared communications link and a microradio link between selected ones of its components comprising one or more bar code scanning devices, each having a memory, an informational display, a CPU, a keyboard for inputting information to the device, a power supply, and one of an infrared communications port and a microradio for communicating with selected other components of the system including other of the bar code scanners, one or more intermediate data storage and processing devices provided with one of an infrared communications port and a microradio for receiving information from one of the one or more bar code scanning devices and for communicating with the selected other components of the system, a printer with one of an infrared communications port and a microradio capable of receiving a print command from one of the one or more bar code scanning devices, and a central computer with means for accepting, storing and transmitting data to and between the one or more intermediate data storage and processing devices. (4:10-39) As shown in the block diagram of FIG. 1, the integrated system 100 of the present invention includes a data collection device 101. The data collection device 101 is used to collect package information from customers and is generally used by couriers and other personnel. The data collection device 101 preferably has various input elements such as a bar code scanner, a keyboard, and/or a touch screen for the input of package data. Specific details of the data collection device 101 are described in greater detail below. The data collection device 101 also includes a CPU and a memory for storing data such as generic system information and/or collected package data as well as a means for

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	communicating the data between various of the other components of the integrated system 100. Such means can include an infrared communications port and/or a microradio or a similar communications device or system that allows automatic transmission of communications between the data collection device 101 and one or more peripheral devices whenever the data collection device 101 and the peripheral devices are within a preselected distance range and/or within a preselected orientation. In accordance with a preferred implementation of the present invention, the data collection device 101 can include both an infrared communications port 111 and a microradio 112 so that in the case of a failure of one of these communications links, the other can be used. In addition, the data collection device 101 can include a telephone communications port, such as a modem or an acoustic coupler, to allow for transmission of data over a telephone line or over a cellular phone system. (5:44-59) The data collection device 101 can take several forms, but will generally fall into two categories, the enhanced Supertracker (EST) and the Power Pad. Federal Express, assignee of the present invention, has used a device known as the Supertracker as a data collection device. The Supertracker is a relatively small, battery powered device used by Federal Express personnel for collecting data relative to packages to be shipped. The Supertracker includes an alphanumeric keyboard and a contact bar code scanner to collect information. It also includes a CPU and a memory. The collected information is stored in the memory and can be communicated to an intermediate storage device via an LED or an acoustic coupler. When information is transferred via the LED, the Supertracker had to be physically in contact with the device with which it communicates.
to access an assessment program stored in a memory of a computing device located geographically remote	Stephenson discloses this feature by transmitting to and receiving data from a central data storage facility storing package data. Stephenson discloses that the central data storage facility includes software for handling package data and dispatching data for each data collection device. *See*, *e.g.*, Stephenson, Abstract; Figs. 1-12; 1:5-12:55; Claims 1-43; *see also*, *id.* at 1:57-63, 2:4-13, 2:23-46,

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
from the handheld device,	2:64-67, 3:3-16, 5:9-21, 5:22-35, 10:15-53, 11:23-58. (1:57-63) An object of the present invention is to provide an integrated data collection and transmission system and method of tracking packages wherein various elements of the system are interconnected by a common communications link such that components of the system need not be physically connected to enable the transfer of data therebetween. (2:4-13) It is a still further object of the present invention to provide a data collection device capable of collecting and storing package data, communicating with at least one peripheral device, and transmitting the package data to an intermediate data storage device, which ultimately transmits the package data to a central storage location. Another object of the present invention is to provide a data collection device capable of transmitting and receiving information relating to package delivery services, but that is not package tracking data. (2:23-46) To achieve these and other advantages and in accordance with the purposes of the invention, as embodied and broadly described, the present invention includes an integrated data collection and transmission system for package tracking comprising a data collection terminal capable of collecting and storing package tracking data, the data collection terminal including one of an infrared communications port and a micro-radio, at least one peripheral device, associated with the data collection terminal, the peripheral device including one of an infrared communications port and a micro-radio for receiving at least one communication from the data collection terminal and for performing a preselected operation related to package tracking based on the at least one received communication, an intermediate data storage device, associated with the data collection terminal, the intermediate data storage device including one of an infrared communications port and a micro-radio for receiving the collected and stored package tracking data from the data collection terminal and a central data collection facility, capable of communicating with the

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	intermediate data storage device, for receiving the collected and stored package tracking data from the intermediate data storage device and for maintaining an accessible package tracking database based on the collected and stored package tracking data. (2:64-67) [A] central computer with means for accepting, storing and transmitting data to and between the one or more intermediate data storage and processing devices. (3:3-16) [T]he method comprising the steps of using a bar code scanner to collect and store package tracking data, transmitting a communication to a peripheral device via one of an infrared communications and a micro-radio link, the peripheral device performing a preselected operation related to package tracking based on the command, transmitting the collected and stored package tracking data to an intermediate data storage device via one of the infrared communications and micro-radio links, transmitting the collected and stored package tracking data to a central data facility, and obtaining an accessible package tracking database based on the collected and stored package tracking data. (5:9-21) The data collection device 101 also communicates with one or more of the intermediate storage devices 106-108 and 113-114, preferably via one of the infrared communications port 111 and microradio 112. As shown in FIG. 1, in accordance with the present invention, as necessary, the intermediate storage device depicted as the belt device 106 can communicate with other of the intermediate storage devices such as the DADS terminal 108 via an infrared communications port or a microradio and with the central data storage facility 109. The intermediate storage devices 106-108 and 113-114 receive and store package information and, as appropriate, can transmit information or instructions to the data collection device 101. (5:22-35) As also shown in FIG. 1, the intermediate storage devices 106-108 and 113-114 communicate with a central data storage facility 109. The central data storage facility 109

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	acts as a warehouse for the package data and is accessible to provide information about the shipment of packages to customers and shipper personnel. In the Federal Express package tracking system, the central data storage facility is known as COSMOS (Customer Operations Service Master On-line System). COSMOS is a sophisticated electronic network that tracks the status of every shipment in the Federal Express system. COSMOS connects the physical handling of packages and related information to the major data systems at Federal Express and, in turn, with customers and employees. (10:15-53) Another intermediate storage device used in the system in accordance with the present invention is DADS terminal 108. The DADS (Digitally Assisted Dispatch System) system is the Federal Express nationwide electronic dispatch network, which utilizes a number of DADS terminals. Typically, the DADS terminal is located within the courier vehicle, though the DADS terminal could also be portable and be carried in a backpack by the courier. Previously, after package data was collected by the data collection device 101 at a customer site, the data collection device 101 was placed into "shoe" in the DADS terminal. The DADS terminal would thus upload the data from the data collection device 101 to the central data storage facility 109, via, for example, a radio. In accordance with the present invention, physical contact between the DADS terminal and the data collection device 101 is unnecessary for data transfer between the devices to occur. As a result, information about package delivery can be made available at the central data storage facility 109, and hence to the customer, much more quickly and easily. In accordance with the present invention, once the data collection device 101 is within a predetermined distance and orientation of the DADS terminal 108, in the case of infrared communications, and within a predetermined distance in the case of microradio communications, the data collection device 101 will automatically transmit data to the DADS terminal. In the alternative, the user can initiate the communication by physically activating a key or otherwise inputting an instruction to the data collection device 101. Preferably, the DADS terminal will also substantially transfer data or instructions to the data collection device 101, for example, in response to a communication from data collection device 101 or upon receipt of a preselected command or data input. In an

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	alternate embodiment, the data collection device 101 can be manually actuated to permit such communication. In either event, such communication avoids having to physically connect the data collection terminal 101 and the DADS terminal for information transmission. (11:23-58) Belt device 106 is used in conjunction with a data collection device 101 and provides for almost real-time transmission of package data to either central data storage facility 109 or DADS terminal 108. Belt device 106 will typically be used in situations where transmission of package data between the data collection device 101 and central data storage facility 109 or DADS terminal 108 will be delayed because the courier will not be returning to his vehicle for some time to transmit the collected information. This may occur in high density areas where the courier will, for example, spend a good deal of time in a single building collecting and/or delivering packages. By using the belt device 106, package information can be transmitted to the either the central data storage facility 109 or DADS terminal 108 before the courier is within the predetermined distance requirement for infrared or microradio communications required by the data collection device 101. In this way the package shipper can fulfill its commitment to providing its customers access to information about their packages within a predetermined time. Belt device 106 receives package information from the data collection device 101 via the communications port 1002. The communications port 1002 can be one or both of an infrared communications port and a microradio. The information is then stored in a memory 1003, which is preferably a buffer memory. At predetermined intervals and under the control of CPU 1001, a radio/modem 1006 transmits the stored information to central data storage facility 109 or to another intermediate storage device, such as DADS terminal 108. Radio/modem 1006 preferably comprises a medium range radio that can transmit within, for example, a five mile range. Optionally, the belt device 106 can also include a display 1004 that can output, for example, status information to the user. Display 1004 can be a screen or a series of LEDs, for example.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	To the extent Plaintiff argues that Stephenson does not teach "accessing" a remote program, Stephenson in view of Banerjee renders this feature obvious to one skilled in the art. Banerjee discloses a system and method for accessing and controlling a host computer using a remote handheld device, where access to any resource on the host computer is afforded to the handheld device. *See*, *e.g.*, Banerjee, Abstract; Figs. 1-11; 1:26-2:26, 2:28-67, 3:32-5:36, 9:20-10:2, 11:24-58; Claims 1-9. One skilled in the art would combine the teachings of Banerjee with Stephenson in order to provide access to a remote program on the central data storage facility of Stephenson before collecting package data and transmitting the data to the central data storage facility. (*Banerjee* at 2:41-52) To control the execution of a program on a host computer, the means for controlling in the mobile user interface device (i) causes the wireless communication link to be created; (ii) runs the program on the host computer; (iii) receives from the input subsystem the positional data and transmits over the wireless communication link the positional data to the program running on the host computer; and (iv) receives over the wireless communication link from the program running on the host computer data representing the image displayed, or to be displayed, and causes the graphical display subsystem to display the image on the graphical display. (*Banerjee* at 9:20-41) In state 205, viewer 100 is controlling the program running in host computer 101, in accordance with the input data received from stylus input subsystem 110. The positions of a stylus in stylus input subsystem 110 are delivered to host computer 101, which generates display commands to viewer 100. CPU 112 executes the display commands received. The execution of display commands may result in an update of LCD 113 c. In this embodiment, either a direct user command or inactivity over a predetermined time period causes viewer 100 to enter a minimum power state ("sleep" mode), which is represented in FIG. 2 by state 204. In minimum power state 204, to preserve battery power, the various operation of viewer 100's functional units are placed on standby status. If the user brings stylus 110 within a predetermined range of viewer 100, viewer 100 is reactivated, and control of host computer 101 is resumed by re-entering state 205. Alternatively, in minimum power state 204, as well as normal operation state 205, the user

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	may press the power button to signal termination of viewer use. Thereupon, viewer 100 enters into state 206, in which an auto-disconnect procedure is executed, which releases control of host computer 101, powers down viewer 100. Stephenson in view of Luo also teaches this feature. Similarly to Stephenson's portable data collection devices, Luo discloses a program on a palm-sized computer. The program is used to access a registry of network services in order to execute application services for running desktop applications that the palm-sized computer could not execute on its own. Luo discloses the palm-sized computer as a control device that operates over a network and interacts with a host computer, sending commands to launch or control programs or services on the host device. In one exemplary embodiment, Luo discloses using the palm-sized computer to access a PowerPoint application on the host computer to control a slideshow from the palm-sized computer. *See*, *e.g.*, Luo, Abstract; Figs. 1-7; 1:30-46, 2:5-9:22, (*Luo* at 1:30-33) One big advantage of palm sized computers is their portability. Therefore, it is desirable to be able to access desktop functionality from palm sized computers. (*Luo* at 1:35-46) Controlling network services using palm sized computers is described. A program on the palm sized computer is used to access a registry of network services that may be available. The registry includes descriptions for various services. Each description includes at least a reference to program code that can be downloaded to the palm sized computer. Executing this program causes the palm sized computer to issue commands directly to the specific network services needed. In some cases, these network services include application services for running desktop applications that the palm sized computer could not execute. (*Luo* at 6:53-67) An important element of the control application 210 is a GUI front-end which accepts user input for controlling the PowerPoint presentation (or other application)

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	and a control protocol manager backend which takes user input and translates it into commands to the CPU service One skilled in the art would recognize Luo as disclosing "accessing" a program on a remote computer using a handheld device by Luo's using a palm-sized computer to execute and command programs resident on a remote computer using a registry of services. One of skill in the art would have combined the teachings of Stephenson and Luo for the purpose of offloading the processing of collected data to a more powerful computing device and for providing control of the remote program. The combination of Stephenson and Luo would allow the data collection device of Stephenson to execute and control a program resident on a central computer to process the data. Doing so would have been nothing more than a combination of known elements to yield a predictable result.
the assessment program being configured to enable a field assessment in a specific industry;	Stephenson discloses that the assessment program is one that can enable a field assessment in the shipping and logistics industry (e.g., package pickup and delivery). *See*, *e.g.*, Stephenson, Abstract; Figs. 1-12; 1:5-12:55; Claims 1-43; *see also*, *id.* at Abstract, 2:57-63, 12:37-47. (Abstract) An integrated data collection and transmission system and method for collecting and transmitting data related to package delivery. The system and method utilize various components that are commonly connected via one or both of an infrared communications link and a microradio link. (2:57-63) An object of the present invention is to provide an integrated data collection and transmission system and method of tracking packages wherein various elements of the system are interconnected by a common communications link such that components of the system need not be physically connected to enable the transfer of data therebetween.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	(12:37-47) As described above and shown in the associated drawings, the present invention comprises an integrated system and method for the collection and transmission of data related to package delivery.
collecting field data associated with the field assessment using the handheld device in response to the assessment program;	Stephenson discloses this feature by collecting bar code data and signature data for packages in response to a predefined delivery route. *See*, *e.g.*, Stephenson, Abstract; Figs. 1-12; 1:5-12:55; Claims 1-43; *see also*, *id.* at 5:37-44, 7:7-43, 11:62-12:15. (5:37-44) Primary to the integrated system of the present invention is the data collection device 101, which is used primarily to collect and store information about packages to be shipped. However, in accordance with the present invention, the data collection device 101 is also capable of performing other, secondary, functions related to package delivery via communications with one or more of the peripheral devices 102-105. (7:7-43) As indicated above, data collection device 101 can also preferably comprise a Power Pad. FIG. 3 is a block diagram of the Power Pad 300. The Power Pad 300 includes many of the same components as the EST 200, the common elements of FIGS. 2 and 3 being labeled with the same reference numerals. In addition, the Power Pad includes a touch screen 301. The touch screen 301 can be used with a stylus (not shown) to input package information. In addition, the touch screen can be used to capture signature information of a person sending a package or signing for a received package. Power Pad 300 can also be used to receive, store, and display, as necessary, dispatch information for a particular courier. In addition, Power Pad 300 can be used as a courier notebook, thereby allowing a courier to enter and maintain notes and information about his route and associated operations. Power Pad 300 can also store and maintain maps, dangerous goods information, international delivery information, news updates, the service reference guide, zip codes, and a cash-only customer list, as well as other information that may be useful for

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	the courier. In addition, the Power Pad 300 can provide instructions to the courier based on their level of experience, can provide performance feedback to the courier, and can provide address verification. The bar code scanner 302 of the Power Pad 300 is preferably not integral to the device, but rather is a physically separate item. For example, the bar code scanner 302 preferably comprises a scanning device in the shape of a large ball point pen. Bar code scanner 302 preferably comprises a scanning element 303, which may include one or more of a contact scanner, a non-contact laser scanner and a CCD, a memory 304, a microradio 305, and an infrared communications port 306. These components are controlled by a CPU 307. As shown in FIG. 3, the microradio 305 and infrared communications port 306 of bar code scanner 302 communicate respectively with the microradio 206 and infrared communications port 207. Bar code data collected by bar code scanner 302 is thus transferred to memory 202. (11:62-12:15) Conveyor device 113 is preferably connected to a conveyor belt that is located in a hub location where for example package delivery vehicles transfer packages. Couriers or other package delivery personnel scan packages with a data collection device 101 when the packages are transmitted along a conveyor belt. The information collected by the data collection device is then preferably transmitted to conveyor device 113, which stores the package information and transmits it to the central data storage facility 109. In this way the central data storage facility 109 receives virtually real-time information about the status of packages while in transit. Conveyor device 113 includes a communications port 1102, which preferably comprises one of an infrared communications port and a microradio, which receives information from data collection device 101. The information is stored in a memory 1103, which is preferably a buffer memory and is then transmitted to central data storage facility 109 via radio 1104, which is preferably a medium range radio capable of transmitting in a range of, for example, five miles. Operation of conveyor device 113 is controlled via CPU 1101.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
using the handheld device to determine a geographical location of the handheld device; and	Stephenson in view of Gildea teaches this feature. Gildea discloses a GPS receiver system with a GPS antenna and differential GPS radio receiver in a personal computing device. Gildea discloses that "[t]he system 10 includes a GPS Smart Antenna receiver module 12 to determine a geographical location of the module 12 and a personal computing display 13 to display the location to a human user." Similar to Stephenson's data collection device, Gildea discloses that the personal computing device may be a "digital assistant, a personal digital assistant (PDA), a personal information manager (PIM), [or] a notebook computer." *See*, *e.g.*, *Gildea*, Abstract; Figs. 1-2b; 1:20-8:45; Claims 1-15. One skilled in the art would combine the GPS system of Gildea with the data collecting abilities of Stephenson to provide users with accurate location information while collecting package and signature data. For instance, locating the user in particular patient rooms or in larger clinics. Doing so would be nothing more than combining known elements to yield a predictable result. (*Gildea* at Abstract) A GPS receiver system to determine and display a geographical differential Global Positioning System (DGPS) location where the components of the system are interconnected with an airwave infrared (IR) link. The system includes a GPS Smart Antenna receiver module to determine the geographical location of the module, a DGPS radio receiver to receive an airwave radio frequency DGPS signal having DGPS correction information, and a personal computing display to run an application program and to display the geographical DGPS location and application information that is useful to a user. The GPS Smart Antenna receiver module and the DGPS radio receiver are switched on and off from the personal computing display through the airwave IR link.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	(*Gildea* at 3:59-4:16) FIG. 1 illustrates a GPS receiver system of the present invention and referred to by the general reference number 10. The system 10 includes a GPS Smart Antenna receiver module 12 to determine a geographical location of the module 12 and a personal computing display 13 to display the location to a human user. The module 12 is housed in a single waterproof package, no more than 15 centimeters high and no more than 15 centimeters wide in any dimension perpendicular to the height. The module 12 includes a GPS antenna 14 to receive an airwave GPS signal, having information for the determination of a GPS location, from a plurality of GPS satellites and to issue a responsive electronic antenna output signal to a GPS engine 15. The GPS engine 15 computes the geographic location from the information in the GPS signal and issues data indicative of the location in an electronic signal to a module infrared (IR) transmitter 16. Several GPS antennas 14 and the GPS engines 15 that are suitable for the construction of the present invention are commercially available, such as a model "SV6" manufactured by Trimble Navigation that includes both the GPS antenna 14 and the GPS engine 15, a model "NavCore Microtracker" manufactured by Rockwell that includes the GPS engine 15, and a variety of models manufactured by MicroPulse located in Camarillo, Calif. that include the GPS antenna 14. (*Gildea* at 5:35-48)The GPS Smart Antenna receiver module 12 is capable of providing a GPS location having an accuracy of approximately 20 meters with selective availability (SA) off or an accuracy in a range of 300 to 50 meters, depending upon several SA parameters set by the United States Government, with SA on. Differential GPS (DGPS) corrections may be used to improve the GPS location accuracy to a DGPS location accuracy in a range of 10 meters to a few centimeters, depending upon the methods used for determining and transmitting the DGPS corrections. In general, the DGPS corrections are determined by comparing a GPS location computed by a GPS receiver located at a reference site with a surveyed location of the reference site. The DGPS corrections so determined are then broadcast in an airwave radio frequency DGPS signal. (*Gildea* at 4:58-5:33)The personal computing display 13 includes a processor system 32 for

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	receiving, processing, and issuing electronic signals. The processor system 32 includes a microprocessor 36 that operates in a conventional manner to receive electronic signals and to process the signals according to pre-programmed instructions in an executable code 38 and variable data 40 stored in a memory 42. An I/O circuit 43, such as a Universal Asynchronous/synchronous Receiver Transmitter (UART), available as an electronic part from many vendors, converts parallel data electronic signals from the microprocessor 36 to serial data electronic signals to the display IR receiver 20 and converts serial data electronic signals from the display IR receiver 20 to parallel data electronic signals to the microprocessor 36. A user entry device 44, such as a keyboard, a keypad, a touchscreen, a switch, a microphone, or a combination thereof, is operated by a human user to enter information. The user may enter program information, such as a selected geographical location. The user entry device 44 responds by issuing a user device electronic signal to the microprocessor 36. The executable code 38 includes instructions to receive the electronic signal, to store the selected geographical location in variable data 40 and to compute user output information of a distance and a direction between the location of the module 12 and the selected location. The microprocessor 36 issues electronic display signals to a display device 46, such as a liquid crystal (LCD), light emitting diode LED display, or an equivalent to display the user output information in a form that is visible to the human user. Optionally, the display device 46 includes a speaker to display the information in a form that is audible to the human user. In a preferred embodiment, the processor system 32, the user entry device 44, the display device 46, the display IR receiver 20, and the display IR transmitter 22 are included in a commercially available personal digital computing device, such as are manufactured by several companies including Casio, Apple, Hewlett-Packard, and Sony and known by various names, such as a digital assistant, a personal digital assistant (PDA), a personal information manager (PIM), a notebook computer, a sub-notebook computer, a PCMCIA computer, a "Zoomer", a "Newton," a "Dataman," or an equivalent. Optionally, the display IR receiver 20 and the display IR transmitter 22 may be included as an accessory to the commercially available device.
communicating the field	Stephenson discloses communicating the collected data to the central computer. Stephenson in

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
data collected using the handheld device and the geographical location of the handheld device to the computing device.	view of Gildea teaches communicating GPS data to the central computer. *See*, *e.g.*, Stephenson, Abstract; Figs. 1-12; 1:5-12:55; Claims 1-43; *see also*, *id.* at 2:23-46, 5:9-21, 10:1-14. (2:23-46) In accordance with the purposes of the invention, as embodied and broadly described, the invention also includes a method of tracking package data using an integrated data collection and transmission system, the method comprising the steps of using a bar code scanner to collect and store package tracking data, transmitting a communication to a peripheral device via one of an infrared communications and a micro-radio link, the peripheral device performing a preselected operation related to package tracking based on the command, transmitting the collected and stored package tracking data to an intermediate data storage device via one of the infrared communications and micro-radio links, transmitting the collected and stored package tracking data to a central data facility, and obtaining an accessible package tracking database based on the collected and stored package tracking data. (5:9-21) The data collection device 101 also communicates with one or more of the intermediate storage devices 106-108 and 113-114, preferably via one of the infrared communications port 111 and microradio 112. As shown in FIG. 1, in accordance with the present invention, as necessary, the intermediate storage device depicted as the belt device 106 can communicate with other of the intermediate storage devices such as the DADS terminal 108 via an infrared communications port or a microradio and with the central data storage facility 109. The intermediate storage devices 106-108 and 113-114 receive and store package information and, as appropriate, can transmit information or instructions to the data collection device 101. (10:1-14) Docking station 107 is used, for example, at the end of a courier's shift to transmit all previously collected data, ultimately to the central data storage facility 109. Selected portions or all of the memory of the data collection device 101 can then be erased and the data collection device will be ready for additional data collection. In addition, the

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	docking station 107 can receive communications from the central data storage facility 109 for transmission to the data collection device 101. For example, via docking station 107, the central data storage facility 110 can communicate updated software or other information related to package tracking, for example, updated postal codes, to the data collection device 101. Docking station 107 is also preferably used for recharging the batteries of data collection device 101.
2. The method of claim 1, further comprising generating field assessment data by rendering the collected field data with the assessment program to complete the field assessment.	Stephenson discloses this feature in at least three ways. First, Stephenson discloses rendering the collected data by processing the bar code data and/or signature data. Second, Stephenson discloses rendering the collected data by printing shipping labels. Finally, Stephenson discloses rendering the collected data by displaying on the data collection terminal. *See*, *e.g.*, Stephenson, Abstract; Figs. 1-12; 1:5-12:55; Claims 1-43; *see also*, *id.* at 2:47-67, 3:65-4:9, 7:49-8:5, 7:7-29, 9:43-50. (2:47-67) The present invention also includes an integrated data collection and transmission system having one of a common infrared communications link and a microradio link between selected ones of its components comprising one or more bar code scanning devices, each having a memory, an informational display, a CPU, a keyboard for inputting information to the device, a power supply, and one of an infrared communications port and a microradio for communicating with selected other components of the system including other of the bar code scanners, one or more intermediate data storage and processing devices provided with one of an infrared communications port and a microradio for receiving information from one of the one or more bar code scanning devices and for communicating with the selected other components of the system, a printer with one of an infrared communications port and a microradio capable of receiving a print command from one of the one or more bar code scanning devices, and a central computer with means for accepting, storing and transmitting data to and between the one or more intermediate data storage and processing devices. (3:65-4:9) Central to the present invention is that the various components can communicate

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	and share information so that information collecting, processing, and storage can be effected as rapidly as possible so that device operations can be managed via an integrated, unitary system. In this way, users of the system and the ultimate customers can have prompt or even immediate access to information concerning major or all aspects of the package delivery system. Additionally, by integrating all of the components of the system, the information can be most efficiently stored, routed, and accessed by the users of the system. (7:49-8:5) The EST 200 and the Power Pad 300 can communicate with one or more of a plurality of peripheral devices 102-105. One such peripheral device is a printer 102. FIG. 4 is a schematic diagram of a printer that may be used in accordance with the present invention. The printer 400, shown in FIG. 4, is preferably a portable device, such as the Federal Express Astra printer, that can be carried by a courier using a shoulder strap (not shown), though a stand-alone, non-portable printer can also be used in accordance with the present invention. The printer 400 is preferably used in conjunction with data collection device 101 to print shipping labels or other required paperwork. Printer 400 includes various LEDs 401-403 indicating, respectively, battery level 401, an error indication 402, and print status 403. In addition, the printer includes a power switch 404 and a feed button 405 to feed paper through paper feeder 406. The printer 400 also preferably includes a communications port 407 capable of receiving information from the data collection terminal 101. Communications port 407 preferably comprises one or both of an infrared communications port and a microradio. Printer 400 also includes a memory and a CPU for processing, and storing information from data collection device 101 input through the communications port 407. (7:7-29) As indicated above, data collection device 101 can also preferably comprise a Power Pad. FIG. 3 is a block diagram of the Power Pad 300. The Power Pad 300 includes many of the same components as the EST 200, the common elements of FIGS. 2 and 3

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	being labeled with the same reference numerals. In addition, the Power Pad includes a touch screen 301. The touch screen 301 can be used with a stylus (not shown) to input package information. In addition, the touch screen can be used to capture signature information of a person sending a package or signing for a received package. Power Pad 300 can also be used to receive, store, and display, as necessary, dispatch information for a particular courier. In addition, Power Pad 300 can be used as a courier notebook, thereby allowing a courier to enter and maintain notes and information about his route and associated operations. Power Pad 300 can also store and maintain maps, dangerous goods information, international delivery information, news updates, the service reference guide, zip codes, and a cash-only customer list, as well as other information that may be useful for the courier. In addition, the Power Pad 300 can provide instructions to the courier based on their level of experience, can provide performance feedback to the courier, and can provide address verification. (9:43-50) In accordance with the present invention, the communication from the data collection device 101 may activate circuitry in the admonishment device 105 to rotate a wheel 705a, 705b or otherwise cause a visual indication regarding the status of pickup and the time of last pickup. In addition, it is also contemplated that the indications 702 and 703 can be provided by an informational display, which can be one of an LCD, a series of LEDs, or a vacuum florescent display. Stephenson in view of Luo also discloses this feature in the same two ways. As in claim 1, when combined with Luo's control of a remote program to process the collected data, Stephenson discloses this feature by processing the collected data, by printing it, and/or by displaying it. *See*, the disclosures cited in claim 1 (discussing Luo). One skilled in the art would recognize both processing, printing, and/or displaying the collected data to be "generating field assessment data by rendering the collected field data with [an]

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	assessment program to complete [a] field assessment," based on the plain meaning of these terms.
3. The method of claim 1, further comprising wirelessly transmitting the collected field data to the computing device using a wireless transmitter in the handheld device.	Stephenson discloses both an infrared communications link and a microradio link for wirelessly transmitting the collected field data from the data collection terminal to the central computer. *See*, the disclosures cited for claim 1; *see also*, Stephenson, Abstract, 4:18-39, 2:23-3:16. (4:18-39) The data collection device 101 also includes a CPU and a memory for storing data such as generic system information and/or collected package data as well as a means for communicating the data between various of the other components of the integrated system 100. Such means can include an infrared communications port and/or a microradio or a similar communications device or system that allows automatic transmission of communications between the data collection device 101 and one or more peripheral devices whenever the data collection device 101 and the peripheral devices are within a preselected distance range and/or within a preselected orientation. In accordance with a preferred implementation of the present invention, the data collection device 101 can include both an infrared communications port 111 and a microradio 112 so that in the case of a failure of one of these communications links, the other can be used. In addition, the data collection device 101 can include a telephone communications port, such as a modem or an acoustic coupler, to allow for transmission of data over a telephone line or over a cellular phone system. (2:23-3:16) To achieve these and other advantages and in accordance with the purposes of the invention, as embodied and broadly described, the present invention includes an integrated data collection and transmission system for package tracking comprising a data collection terminal capable of collecting and storing package tracking data, the data collection terminal including one of an infrared communications port and a micro-radio, at least one peripheral device, associated with the data collection terminal, the peripheral device including one of an infrared communications port and a micro-radio for receiving at

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	least one communication from the data collection terminal and for performing a preselected operation related to package tracking based on the at least one received communication, an intermediate data storage device, associated with the data collection terminal, the intermediate data storage device including one of an infrared communications port and a micro-radio for receiving the collected and stored package tracking data from the data collection terminal and a central data collection facility, capable of communicating with the intermediate data storage device, for receiving the collected and stored package tracking data from the intermediate data storage device and for maintaining an accessible package tracking database based on the collected and stored package tracking data. The present invention also includes an integrated data collection and transmission system having one of a common infrared communications link and a microradio link between selected ones of its components comprising one or more bar code scanning devices, each having a memory, an informational display, a CPU, a keyboard for inputting information to the device, a power supply, and one of an infrared communications port and a microradio for communicating with selected other components of the system including other of the bar code scanners, one or more intermediate data storage and processing devices provided with one of an infrared communications port and a microradio for receiving information from one of the one or more bar code scanning devices and for communicating with the selected other components of the system, a printer with one of an infrared communications port and a microradio capable of receiving a print command from one of the one or more bar code scanning devices, and a central computer with means for accepting, storing and transmitting data to and between the one or more intermediate data storage and processing devices. In accordance with the purposes of the invention, as embodied and broadly described, the invention also includes a method of tracking package data using an integrated data collection and transmission system, the method comprising the steps of using a bar code scanner to collect and store package tracking data, transmitting a communication to a peripheral device via one of an infrared communications and a micro-radio link, the peripheral device performing a preselected operation related to package tracking based on the command, transmitting the collected and stored package tracking data to an

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	intermediate data storage device via one of the infrared communications and micro-radio links, transmitting the collected and stored package tracking data to a central data facility, and obtaining an accessible package tracking database based on the collected and stored package tracking data.
4. The method of claim 3, wherein the wireless transmitter in the handheld device includes an infrared transmitter.	Stephenson discloses both an infrared communications link and a microradio link for wirelessly transmitting the collected field data from the data collection terminal to the central computer. *See*, the disclosures cited for claim 1 and 4. Stephenson in view of Gildea also discloses that its wireless transmission to a host computer may be accomplished using an infrared transmitter/infrared link. *See*, Gildea, Abstract; Figs. 1-2b; 1:20-8:45; Claims 1-15. (*Gildea* at Abstract) A GPS receiver system to determine and display a geographical differential Global Positioning System (DGPS) location where the components of the system are interconnected with an airwave infrared (IR) link. (*Gildea* at 2:48-57) The GPS/DGPS Smart Antenna unit may use a wireless radio frequency or infrared (IR) frequency link to connect to the personal computing device. The IR frequency link has the advantage that it does not interfere with reception of airwave radio frequency signals used for navigation and does not require testing or certification by the FAA or FCC. This format eliminates the expense, reliability problems, and inconvenience of the cable but, does not allow a standard construction of the GPS receiver component.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	(*Gildea* at 5:14-34) The microprocessor 36 issues electronic display signals to a display device 46, such as a liquid crystal (LCD), light emitting diode LED display, or an equivalent to display the user output information in a form that is visible to the human user. Optionally, the display device 46 includes a speaker to display the information in a form that is audible to the human user. In a preferred embodiment, the processor system 32, the user entry device 44, the display device 46, the display IR receiver 20, and the display IR transmitter 22 are included in a commercially available personal digital computing device, such as are manufactured by several companies including Casio, Apple, Hewlett-Packard, and Sony and known by various names, such as a digital assistant, a personal digital assistant (PDA), a personal information manager (PIM), a notebook computer, a sub-notebook computer, a PCMCIA computer, a "Zoomer", a "Newton," a "Dataman," or an equivalent. Optionally, the display IR receiver 20 and the display IR transmitter 22 may be included as an accessory to the commercially available device. Stephenson in view of Luo also discloses this feature. Luo discloses that an infrared connection to control programs on a host computer using the palm-sized computer. *See*, *e.g.*, *Luo*, 5:57-65. (*Luo* at 5:57-65) Establish a network connection from the control device 200 to the network 110. For Palm computers, there are multiple options for network connectivity. Possible solutions include using the infrared (IR) port to talk to a IR-LAN bridge or router, using the serial port to talk to a serial-to-LAN bridge or router, using either the IR or the serial port to talk to a digital cell phone and dial up a modem server, and/or using wireless data communications.
5. The method of claim 3, wherein the computing device includes a server configured to store the assessment program.	Stephenson and Luo, in view of Mutler, discloses this feature. Mutler discloses transferring data and synchronizing devices across networks between computing devices (e.g., a handheld device) and a storage server. One skilled in the art would recognize Mutler's storage server as being configured to store the assessment program and make it accessible to the data collection device of Stephenson in view of Luo. *See*, the disclosures cited for claims 1-4; *see also*, *Mutler*, Abstract; Figs. 1-17; 1:16-4:38; 5:11-16:64; 33:7-35:48; Claims 1-29.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	(*Mutler* at Abstract) A system and method for synchronizing devices which can couple to the Internet, or any network. The system includes a first sync engine on the first system interfacing with data on the first system to provide difference information. A data store is coupled to the network and in communication with the first and second systems. A second sync engine is provided on the second system coupled to receive the difference information from the data store via the network, and interface with data on the second system to update said data on the second system with said difference information. Difference information is transmitted to the data store by the first sync engine and received from the data store from the second sync engine. (*Mutler* at 5:12-29) The present invention includes a system and a method for transferring data between two devices which require information to be shared between them. In accordance with the discussion herein, a "device" is defined as a collection of elements or components organized for a common purpose, and may include hardware components of a computer system, personal information devices, hand-held computers, notebooks, or any combination of hardware which may include a processor and memory which is adapted to receive or provide information to another device; or any software containing such information residing on a single collection of hardware or on different collections of hardware. Such software might include applications such as personal information managers, which include contact data and other such information, e-mail systems, and file systems, such as those utilized by Microsoft Windows NT operating systems, Unix operating systems, Linux operating systems, or other systems capable of storing file types having binary formats which translate to application formats of differing types. (*Mutler* at 10:32-47) As shown in FIG. 8, some device engines are provided entirely on the device (and are referred to herein as desktop device engines), while others include components a the back end server (which may comprise storage server 850 or a specialized server, as shown in FIG. 9B.) This is illustrated generally by lines 832, 834,836, and 838 in FIG. 8. Also, in FIG. 8, elements above dashed line 855 are provided by an administrator or service provider of the system of the present invention. Each of the device engines 862,

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	864, 866 and 868 is configured relative to the type of device on which it resides. For example, the Cell phone device engine 862 includes one or more components arranged on the phone while others are on server 850. Conversely, device engine 866 resides entirely on the windows device 806. Data from each of the devices is coupled via an Internet connection 710 with a storage server 850. To the extent Plaintiff argues that Stephenson and Luo, in view of Mutler does not teach accessing a program on a remote computing device, where the remote computing device is a server, Stephenson and Luo, in view of Riggins does. Riggins discloses providing access to computer services (e.g., programs) on a server over a network using a client device. One skilled in the art would recognize Riggin's server as being configured to store an assessment program and provide access to a client device that is a data collection device. *See*, *e.g.*, *Riggins*, Abstract; Figs. 1-7; 1:5-2:16; 2:47-8:43; Claims 1-43 (*Riggins* at Abstract) A system for communicating through a computer network. The system includes a communications engine for establishing a communications link with a server, a browser, coupled to the communications engine, for receiving applet information corresponding to a service from the server, and an applet engine for using the applet information to control user interface I/O of the service. The communications engine may confirm user access privileges before establishing a communications link between the client and the server. The communications engine receives configuration data, and configures client attributes using the configuration data to provide a user-specific user interface to the client. It will be appreciated that the system may be stored on a floppy disk or hard drive. (*Riggins* at 2:47-55) FIG. 1 is a block diagram illustrating a roaming-user network access system 100, in accordance with the present invention. System 100 includes a network of

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	computers, referred to herein as an "internet" 140, connected via a master server 130 to a local network 120. A first local client 110 and a second local client 160 are addressably connected via the local network 120 to the master server 130. A remote client 150 is connected via the internet 140 to the master server 130. Another server 166 is also connected via the internet 140 to the remote client 150, to the master server 130 and to the local clients 110 and 160. (*Riggins* at 3:15-48) The master server 130 includes a web page engine 133 for maintaining and providing access to an internet web page which is enabled to forward applets 136 to the web browser 155 of the remote client 150. A user can select a particular service which corresponds to one of the applets 136, thereby causing the web browser 155 of the remote client 150 to initiate execution of the corresponding applet 130. Execution of the applet 130 causes the appropriate service engine 115 or 165 to execute the particular service or access an already executing service. It will be appreciated that executing a service may include directing Input/Output (I/O) control of a service application program, such as an e-mail application program, a paging application program or a word-processing application program, to the remote client 150 user. The master server 130 further includes configuration data 137, which the remote client 150 can download to gain access to the desired service and to configure the functionality, look and feel of the web browser 155. The configuration data 137 may include operating system settings such as TCP protocol data and the domain name server address, user preferences, bookmarks, services, service addresses, etc. Each user preferably uploads unique configuration data 137 to the master server 130 in order to obtain similar functionality, look and feel from any web browser 155. Similar to the local clients 110 and 160, the master server 130 may include a service engine 138 for providing access to a third computer service, and server 166 may include a service engine 167 for providing access to a fourth computer service. Service engines 138 and 166 are described in greater detail with reference to FIG. 4. From the remote client 150 user's standpoint, the location of the service engine does not matter.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	(*Riggins* at 4:18-33) Although not shown in FIG. 1, a web browser 155 may be placed on a local client 110 or 160. A user can access the web page engine 133 from the local client 110 or 160 to take advantage of the services provided by the master server 130, by the server 166 or even by the local clients 110 or 160. For example, the local client user may access the web page engine 133 and select a particular service which resides on the local client 110. Accordingly, the applets 136 would launch the service on the local client 110 and would provide direct I/O control of the service to the user. Those skilled in the art will recognize that a particular service engine may require the services of other service engines. It will be appreciated that the local client user need not know the location of each service. The local client user need only access the master server 130. One skilled in the art would also look to combine the teachings of Riggins with Stephenson and Luo for the purposes of storing programs and collected data on a larger capacity storage device (e.g., a server). Doing so would be nothing more than substituting one known element for another to yield predictable results.
6. The method of claim 1, wherein the assessment program includes at least one of a construction industry analysis program, HVAC analysis program, project management program, equipment readiness program, troubleshooting	Stephenson discloses this feature. As described above in claim 1, Stephenson discloses an assessment program is one that can enable a field assessment in the shipping and logistics industry (e.g., package pickup and delivery). *See*, the disclosures cited above for claim 1. One skilled in the art would consider Stephenson's system to be at least a project management program, equipment readiness program, inventory tracking or ordering program, and/or multi-user coordination program.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
program, inventory tracking or ordering program, legal investigation program, or multi-user coordination program.	
7. A handheld device, comprising:	Stephenson discloses a method that comprises using a handheld device for the same reasons as claim 1. *See* the disclosures cited above for claim 1.
a communication module configured to download a field management program stored in a computing device located remotely from the handheld device;	The '581 patent does not distinguish between the field management program in claim 7 and the assessment program in claim 1, and does not use either term in the specification outside of the claims. Stephenson discloses this feature by discloses that the data collection device includes "means for communication data" (e.g., a communication module), including an infrared, microradio, or telephone communications port, between the device and one or more intermediate storage devices. Stephenson discloses one such intermediate storage device is a docking station, which can communicate software to the data collection device using the communication module. One skilled in the art would understand this to disclose a communication module configured to download a field management program (e.g., software) stored in a computing device (e.g., the central computer) located remotely from the handheld device (e.g., the data collection device). *See*, *e.g.*, Stephenson, Abstract; Figs. 1-12; 1:5-12:55; Claims 1-43; *see also*, *id.* at. 4:14-39, 5:9-21, 9:55-10:14. (4:14-39) The data collection device 101 preferably has various input elements such as a bar code scanner, a keyboard, and/or a touch screen for the input of package data. Specific details of the data collection device 101 are described in greater detail below. The data collection device 101 also includes a CPU and a memory for storing data such as generic system information and/or collected package data as well as a means for communicating the data between various of the other components of the integrated system 100. Such means can include an infrared communications port and/or a microradio or a similar

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	communications device or system that allows automatic transmission of communications between the data collection device 101 and one or more peripheral devices whenever the data collection device 101 and the peripheral devices are within a preselected distance range and/or within a preselected orientation. In accordance with a preferred implementation of the present invention, the data collection device 101 can include both an infrared communications port 111 and a microradio 112 so that in the case of a failure of one of these communications links, the other can be used. In addition, the data collection device 101 can include a telephone communications port, such as a modem or an acoustic coupler, to allow for transmission of data over a telephone line or over a cellular phone system. (5:9-21) The data collection device 101 also communicates with one or more of the intermediate storage devices 106-108 and 113-114, preferably via one of the infrared communications port 111 and microradio 112. As shown in FIG. 1, in accordance with the present invention, as necessary, the intermediate storage device depicted as the belt device 106 can communicate with other of the intermediate storage devices such as the DADS terminal 108 via an infrared communications port or a microradio and with the central data storage facility 109. The intermediate storage devices 106-108 and 113-114 receive and store package information and, as appropriate, can transmit information or instructions to the data collection device 101. (9:55-10:14) One of the intermediate storage devices is a docking station 107. FIG. 8 is a schematic diagram of a docking station in accordance with the present invention. Docking station 107 is preferably located at a central shipping location, for example, where the courier goes to unload or pickup packages. The docking station 107 preferably comprises a number of ports 801-803, each of which are capable of receiving a data collection device 101. Via one of an infrared communications link or microradio, the data stored in the data collection device 101 is transmitted to a data storage device in the docking station 107, which subsequently transmits the data to the central data storage facility 109.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	Docking station 107 is used, for example, at the end of a courier's shift to transmit all previously collected data, ultimately to the central data storage facility 109. Selected portions or all of the memory of the data collection device 101 can then be erased and the data collection device will be ready for additional data collection. In addition, the docking station 107 can receive communications from the central data storage facility 109 for transmission to the data collection device 101. For example, via docking station 107, the central data storage facility 110 can communicate updated software or other information related to package tracking, for example, updated postal codes, to the data collection device 101. Docking station 107 is also preferably used for recharging the batteries of data collection device 101. One skilled in the art would also consider this feature obvious over the teachings of Stephenson in view of Huang. *See*, the disclosures cited above for claim 1; *see also*, *e.g.*, *Huang*, Abstract; Figs. 1-7; 1:9-3:52; 4:13-7:67; Claims 1-20. Huang discloses a management system for selectively distributing applications and databases from a server computer to a plurality of intermittently connected handheld devices. One skilled in the art would have found it obvious to combine the communication module of Stephenson with the ability to download programs from Huang. Doing so would have been nothing more than combining their teachings to yield a predictable result. (*Huang* at Abstract) The present invention is a novel management system for selectively distributing applications and databases from a server computer to a plurality of intermittently connected handheld devices. The applications and databases to be downloaded and deleted are first selected from an application list maintained by handheld devices. After established a connection with the server computer, the application list of selected applications is copied to the server computer which maintains an access control list indicating which applications are permitted to be downloaded to which handheld devices. The server computer examines the application list and the access control list to determine which applications are both selected and are authorized for use by the handheld device. After determining that requested applications are authorized for requesting devices, these

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	applications are downloaded. If the connected handheld device does not have that the application list, the application list is created for it and downloaded. (*Huang* at 2:10-21) An alternative way of distributing handheld applications within an organization, is to have a centralized server that manages a user pool, a handheld device pool, and an application pool. To install an application, a handheld device must first connect to the network and make such a request directly to the centralized server. It is the server's responsibility to authenticate the handheld device and its user, to authorize the application installation request based on the user profile, the device usage, and a pre-configured access-control policy. If the application installation request is authorized, the server downloads the target applications to the device. (*Huang* at 4:25-37) The process of a client requesting application download and the server servicing this request is performed while the requesting client remains connected to the network. A handheld device can obtain a connection to a network, such as the Internet or a local area network, by dialing up to a network remote access server through a modem, or by having a direct serial-port connection, e.g., the Palm Pilot cradle, to a network connected intermediary computer. In the former case, the client synchronizes with the server directly; in the latter case, the client synchronizes with the server through an intermediate computer which passes along the information transmitted back and forth between the client and the server. (*Huang* at 5:51-64) FIG. 5 shows the logic flow of the application list manager 205 (FIG. 2) in the client device, used to modify the application list 506. After the application manager is started in step 501, the list of applications 506 available for download from the server is displayed in step 502. In step 503, the user selects applications to either delete or to download. If the application was selected for deletion, at step 504 it is deleted from the client device if the application was installed there. If the application was selected for download, a request to download the next time the client synchronizes with the server is

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	issued at step 505. At step 506, the status of all applications is updated accordingly and recorded in the application list 506, after which the program control returns to step 502.
a memory configured to store the field management program after the download;	Stephenson discloses that the data collection device has memory. *See*, Stephenson, Abstract; Figs. 1-12; 1:5-12:55; Claims 1-43; *see also*, *id.* at 2:47-67, 5:45-59, 6:8-12, Claim 26. (2:47-67) The present invention also includes an integrated data collection and transmission system having one of a common infrared communications link and a microradio link between selected ones of its components comprising one or more bar code scanning devices, each having a memory, an informational display, a CPU, a keyboard for inputting information to the device, a power supply, and one of an infrared communications port and a microradio for communicating with selected other components of the system including other of the bar code scanners, one or more intermediate data storage and processing devices provided with one of an infrared communications port and a microradio for receiving information from one of the one or more bar code scanning devices and for communicating with the selected other components of the system, a printer with one of an infrared communications port and a microradio capable of receiving a print command from one of the one or more bar code scanning devices, and a central computer with means for accepting, storing and transmitting data to and between the one or more intermediate data storage and processing devices. (5:45-59) The data collection device 101 can take several forms, but will generally fall into two categories, the enhanced Supertracker (EST) and the Power Pad. Federal Express, assignee of the present invention, has used a device known as the Supertracker as a data collection device. The Supertracker is a relatively small, battery powered device used by Federal Express personnel for collecting data relative to packages to be shipped. The Supertracker includes an alphanumeric keyboard and a contact bar code scanner to collect

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	information. It also includes a CPU and a memory. The collected information is stored in the memory and can be communicated to an intermediate storage device via an LED or an acoustic coupler. When information is transferred via the LED, the Supertracker had to be physically in contact with the device with which it communicates. (6:8-12) Data input via keyboard 205 and bar code scanner 204 is stored in memory 202, which preferably comprises several 16 Mbit flash memory chips, though the number and configuration of the memory elements is within the purview of one of ordinary skill in the art. (Claim 26) 26. The integrated data collection and transmission system for package tracking as recited in claim 1, wherein the data collection terminal further comprises: an informational display, which displays information regarding data collection; a central processing unit (CPU); a memory, coupled to the CPU, for storing information relative to data collection; means for inputting information relative to data collection to the data collection terminal; and a power supply, coupled to the CPU, which supplies power to the data collection terminal.
a position module configured to enable identifying a geographic location of the handheld device; and	As with Claim 1, Stephenson in view of Gildea renders this feature obvious to one of skill in the art. *See* the disclosures cited above for claim 1; *see also*, *Gildea*, Abstract, 4:58-5:34. (*Gildea* at Abstract) A GPS receiver system to determine and display a geographical differential Global Positioning System (DGPS) location where the components of the system are interconnected with an airwave infrared (IR) link. The system includes a GPS Smart Antenna receiver module to determine the geographical location of the module, a

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	DGPS radio receiver to receive an airwave radio frequency DGPS signal having DGPS correction information, and a personal computing display to run an application program and to display the geographical DGPS location and application information that is useful to a user. The GPS Smart Antenna receiver module and the DGPS radio receiver are switched on and off from the personal computing display through the airwave IR link. (*Gildea* at 4:58-5:34) The personal computing display 13 includes a processor system 32 for receiving, processing, and issuing electronic signals. The processor system 32 includes a microprocessor 36 that operates in a conventional manner to receive electronic signals and to process the signals according to pre-programmed instructions in an executable code 38 and variable data 40 stored in a memory 42. An I/O circuit 43, such as a Universal Asynchronous/synchronous Receiver Transmitter (UART), available as an electronic part from many vendors, converts parallel data electronic signals from the microprocessor 36 to serial data electronic signals to the display IR receiver 20 and converts serial data electronic signals from the display IR receiver 20 to parallel data electronic signals to the microprocessor 36. A user entry device 44, such as a keyboard, a keypad, a touchscreen, a switch, a microphone, or a combination thereof, is operated by a human user to enter information. The user may enter program information, such as a selected geographical location. The user entry device 44 responds by issuing a user device electronic signal to the microprocessor 36. The executable code 38 includes instructions to receive the electronic signal, to store the selected geographical location in variable data 40 and to compute user output information of a distance and a direction between the location of the module 12 and the selected location. The microprocessor 36 issues electronic display signals to a display device 46, such as a liquid crystal (LCD), light emitting diode LED display, or an equivalent to display the user output information in a form that is visible to the human user. Optionally, the display device 46 includes a speaker to display the information in a form that is audible to the human user. In a preferred embodiment, the processor system 32, the user entry device 44, the display device 46, the display IR receiver 20, and the display IR transmitter 22 are included in a commercially available personal digital computing device, such as are manufactured by several companies including Casio, Apple, Hewlett-Packard,

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	and Sony and known by various names, such as a digital assistant, a personal digital assistant (PDA), a personal information manager (PIM), a notebook computer, a sub-notebook computer, a PCMCIA computer, a "Zoomer", a "Newton," a "Dataman," or an equivalent. Optionally, the display IR receiver 20 and the display IR transmitter 22 may be included as an accessory to the commercially available device.
a processor configured to execute the stored field management program to enable collecting field data associated with a field assessment while at a field;	Stephenson discloses that the data collection device includes a CPU (e.g., a processor). *See* the disclosures cited above for claim 1; *see also*, Stephenson, 2:47-67, 4:18-23, Claim 26. (2:47-67) The present invention also includes an integrated data collection and transmission system having one of a common infrared communications link and a microradio link between selected ones of its components comprising one or more bar code scanning devices, each having a memory, an informational display, a CPU, a keyboard for inputting information to the device, a power supply, and one of an infrared communications port and a microradio for communicating with selected other components of the system including other of the bar code scanners, one or more intermediate data storage and processing devices provided with one of an infrared communications port and a microradio for receiving information from one of the one or more bar code scanning devices and for communicating with the selected other components of the system, a printer with one of an infrared communications port and a microradio capable of receiving a print command from one of the one or more bar code scanning devices, and a central computer with means for accepting, storing and transmitting data to and between the one or more intermediate data storage and processing devices. (4:18-23) The data collection device 101 also includes a CPU and a memory for storing data such as generic system information and/or collected package data as well as a means for communicating the data between various of the other components of the integrated system 100.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	(Claim 26) 26. The integrated data collection and transmission system for package tracking as recited in claim 1, wherein the data collection terminal further comprises: an informational display, which displays information regarding data collection; a central processing unit (CPU); a memory, coupled to the CPU, for storing information relative to data collection; means for inputting information relative to data collection to the data collection terminal; and a power supply, coupled to the CPU, which supplies power to the data collection terminal.
wherein the communication module is further configured to communicate the field data and the geographic location of the handheld device to the computing device.	As with Claims 1, 3, and 4, Stephenson in view of Gildea renders this feature obvious to one skilled in the art. Stephenson discloses a communication module for wirelessly communicating data and Gildea discloses obtaining location data. One skilled in the art would consider it obvious based on Stephenson in view of Gildea to send, along with data, the location data obtained from Gildea. *See*, the disclosures cited above for claims 1, 3, and 4.
8. The handheld device of claim 7, wherein the communication module is further configured to wirelessly download the field management	As with Claims 1, 3-4, and 7, Stephenson discloses this feature by disclosing that data stored in the data collection device can be transmitted to the docking station via the infrared communications link or microradio (e.g., wireless connections). Moreover, Stephenson discloses that the docking station can communication software (e.g., programs) to the data collection device. *See*, the disclosures cited above for claim 1, 3-4, and 7; *see also*, Stephenson, 9:55-10:14.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
program stored in the computing device.	(9:55-10:14) One of the intermediate storage devices is a docking station 107. FIG. 8 is a schematic diagram of a docking station in accordance with the present invention. Docking station 107 is preferably located at a central shipping location, for example, where the courier goes to unload or pickup packages. The docking station 107 preferably comprises a number of ports 801-803, each of which are capable of receiving a data collection device 101. Via one of an infrared communications link or microradio, the data stored in the data collection device 101 is transmitted to a data storage device in the docking station 107, which subsequently transmits the data to the central data storage facility 109. Docking station 107 is used, for example, at the end of a courier's shift to transmit all previously collected data, ultimately to the central data storage facility 109. Selected portions or all of the memory of the data collection device 101 can then be erased and the data collection device will be ready for additional data collection. In addition, the docking station 107 can receive communications from the central data storage facility 109 for transmission to the data collection device 101. For example, via docking station 107, the central data storage facility 110 can communicate updated software or other information related to package tracking, for example, updated postal codes, to the data collection device 101. Docking station 107 is also preferably used for recharging the batteries of data collection device 101. Stephenson in view of Huang also discloses this feature by disclosing a wireless communication module and the ability to download a program. *See*, the disclosures cited above for claims 1, 3-4, and 7.
9. The handheld device of claim 7, wherein the communication module is further configured to enable real-time access to the field	As with claim 7, Stephenson alone and Stephenson in view of Huang both disclose this feature, because the wireless communication module of Stephenson and the downloading capability of Stephenson/Huang allow the data collection device to be configured to download software (e.g., the field management program). One skilled in the art would recognize that downloading a field management program from a computing device provides real-time access to the field management program on the computing device.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
management program stored in the computing device.	Stephenson also explicitly discloses that the data collection device, in conjunction with a belt device, "provides for almost real-time transmission of package data to either central data storage facility." *See*, Stephenson, Abstract; Figs. 1-12; 1:5-12:55; Claims 1-43; *see also*, *id.* at 11:14-43, 3:62-4:9). One skilled in the art would recognize that real-time transmission of package data to a computer discloses real-time access to that computer. (11:14-43) Another intermediate storage device is belt device 106. FIG. 10 is a block diagram of a belt device in accordance with the present invention. The belt device 106 of the present invention is preferably body wearable and may, as the name implies be attached to the user's belt. Of course the belt device 106 could be attached elsewhere on the user's body. Preferably belt device 106 is fairly small, about twice the size of a typical pager, and will not impede normal courier activities. Belt device 106 is used in conjunction with a data collection device 101 and provides for almost real-time transmission of package data to either central data storage facility 109 or DADS terminal 108. Belt device 106 will typically be used in situations where transmission of package data between the data collection device 101 and central data storage facility 109 or DADS terminal 108 will be delayed because the courier will not be returning to his vehicle for some time to transmit the collected information. This may occur in high density areas where the courier will, for example, spend a good deal of time in a single building collecting and/or delivering packages. By using the belt device 106, package information can be transmitted to the either the central data storage facility 109 or DADS terminal 108 before the courier is within the predetermined distance requirement for infrared or microradio communications required by the data collection device 101. In this way the package shipper can fulfill its commitment to providing its customers access to information about their packages within a predetermined time. (3:62-4:9) FIG. 1 is a block diagram of the integrated data collection and transmission system of the present invention. As shown in FIG. 1, there are various components that

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	make up the integrated system of the present invention. Central to the present invention is that the various components can communicate and share information so that information collecting, processing, and storage can be effected as rapidly as possible so that device operations can be managed via an integrated, unitary system. In this way, users of the system and the ultimate customers can have prompt or even immediate access to information concerning major or all aspects of the package delivery system. Additionally, by integrating all of the components of the system, the information can be most efficiently stored, routed, and accessed by the users of the system.
10. The handheld device of claim 9, wherein the communication module is further configured to establish a two-way communication channel between the handheld device and the computing device.	Stephenson discloses this feature by disclosing that the wireless network transceiver of data collection device includes a "bidirectional data transfer" between the data collection device and the central data collection facility. *See* the disclosures cited above for claims 1, 3-4, and 7; *see also,* Stephenson, 4:10-39, 4:56-5:8, Claim 16. (4:10-39) The data collection device 101 also includes a CPU and a memory for storing data such as generic system information and/or collected package data as well as a means for communicating the data between various of the other components of the integrated system 100. Such means can include an infrared communications port and/or a microradio or a similar communications device or system that allows automatic transmission of communications between the data collection device 101 and one or more peripheral devices whenever the data collection device 101 and the peripheral devices are within a preselected distance range and/or within a preselected orientation. In accordance with a preferred implementation of the present invention, the data collection device 101 can include both an infrared communications port 111 and a microradio 112 so that in the case of a failure of one of these communications links, the other can be used. In addition, the data collection device 101 can include a telephone communications port, such as a modem or an acoustic coupler, to allow for transmission of data over a telephone line or over a cellular phone system.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	(4:56-5:8) Similarly, in the preferred application of the device, the peripheral device will include a CPU and associated software such that the peripheral device will automatically follow one or more preselected routines, in response to the receipt of the communication, or in response to its review of the substance of the communication. Depending on the peripheral device, there can be a one-way or two-way communications link established between the data collection device 101 and the various peripheral devices 102-105. If the peripheral device is programmed to provide a communication to the data collection device 101, the substance of the communication is ultimately placed within its memory. Moreover, the data collection device 101 preferably will follow one or more preseleted subroutines, based upon the receipt of the substance of the communication from peripheral device 102-105. The peripheral devices can include a printer 102, a data transfer device 103, a storage facility 104, and an admonishment device 105. Details of these peripheral devices are shown and described with respect to FIGS. 4 through 7. (Claim 16) 16. The integrated data collection and transmission system for package tracking as recited in claim 1, wherein the intermediate data storage device comprises a data transceiver device capable of bidirectional data transfer between a plurality of data collection terminals and the central data collection facility.
11. The handheld device of claim 9, wherein the field management program includes at least one of a construction-industry, HVAC, project management, equipment readiness, troubleshooting,	Stephenson discloses this feature for the same reasons as cited in claims 1, 6, and 7. *See*, *e.g.*, the disclosures cited above for claims 1, 6, and 7. One skilled in the art would consider Stephenson's system to be at least a project management, equipment readiness, inventory tracking or ordering, and/or multi-user coordination management program.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
inventory management, legal investigation, or multi-user coordination field management program.	
12. The handheld device of claim 9, wherein the communication module is further configured to synchronize the field management program or the collected field data between the handheld device and the computing device.	As with claim 7, Stephenson alone and Stephenson in view of Huang both disclose this feature, because the wireless communication module of Stephenson and the downloading capability of Huang allow the data collection device to be configured to download the field management program and to transfer collected data to the computing device. One skilled in the art would recognize that downloading a field management program from a computing device synchronizes the field management program with the computing device. One skilled in the art would also consider docking the data collection device so that data can be transferred to the central data storage facility (e.g., the computing device) to be "synchronizing . . . the collected data between the handheld device and the computing device." *See*, *e.g.*, Stephenson, (*Stephenson* at 9:55-10:14) One of the intermediate storage devices is a docking station 107. FIG. 8 is a schematic diagram of a docking station in accordance with the present invention. Docking station 107 is preferably located at a central shipping location, for example, where the courier goes to unload or pickup packages. The docking station 107 preferably comprises a number of ports 801-803, each of which are capable of receiving a data collection device 101. Via one of an infrared communications link or microradio, the data stored in the data collection device 101 is transmitted to a data storage device in the docking station 107, which subsequently transmits the data to the central data storage facility 109. Docking station 107 is used, for example, at the end of a courier's shift to transmit all previously collected data, ultimately to the central data storage facility 109. Selected

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	portions or all of the memory of the data collection device 101 can then be erased and the data collection device will be ready for additional data collection. In addition, the docking station 107 can receive communications from the central data storage facility 109 for transmission to the data collection device 101. For example, via docking station 107, the central data storage facility 110 can communicate updated software or other information related to package tracking, for example, updated postal codes, to the data collection device 101. Docking station 107 is also preferably used for recharging the batteries of data collection device 101. To the extent Plaintiff argues otherwise, Stephenson in view of Mutler discloses this feature. *See*, the disclosures cited above for claim 5. (*Mutler* at Abstract) A system and method for synchronizing devices which can couple to the Internet, or any network. The system includes a first sync engine on the first system interfacing with data on the first system to provide difference information. A data store is coupled to the network and in communication with the first and second systems. A second sync engine is provided on the second system coupled to receive the difference information from the data store via the network, and interface with data on the second system to update said data on the second system with said difference information. Difference information is transmitted to the data store by the first sync engine and received from the data store from the second sync engine.
13. The handheld device of claim 12, wherein the communication module is further configured to synchronize the field	Claim 13 and claim 12 share substantially the same elements, with the exception of using a wireless radio channel to conduct the synchronization. As stated above for claims 3, 4, 7, 9, 10, and 12, Stephenson discloses this feature. *See*, *e.g.*, the disclosures cited above for claims 3, 4, 7, 9, 10, and 12.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
management program or the collected field data using a wireless radio channel between the handheld device and the computing device.	
14. The handheld device of claim 9, wherein the processor is further configured to analyze the collected field data to render output data.	As discussed with respect to claims 2 and 7, Stephenson discloses a processor for rendering output data and for analyzing the collected data. *See*, *e.g.*, the disclosures cited above for claims 2 and 7.
16. The handheld device of claim 9, wherein the position module is further configured to provide navigable instructions to enable finding the geographic location of the field.	Stephenson and Gildea, in view of Delorme, or Stephenson and Gildea, in view of Obradovich, renders claim 16 obvious to one skilled in the art. *See*, *e.g.*, the disclosures cited above for claim 1; *see also*, *DeLorme*, Fig. 1A2-9, Abstract; 1:22-2:31, 4:21-5:53, 5:56-7:7, 6:33-49, 9:13-24, 14:16-27, 14:41-65, 16:23-29, 17:16-56, 18:1-58, 19:3-75:4; Claim 1-28; *Obradovich*, Figs. 1-33; 1:5-5:57, 7:13-8:67, 11:28-47, 16:1-53; Claims 1-42. One skilled in the art would combine the GPS system of Gildea and the directions of Delorme/Obradovich with the data collecting abilities of Stephenson to provide users with accurate instructions to stops on the user's route based on scanned package data. Doing so would be nothing more than combining known elements to yield a predictable result. (*DeLorme* at 1:22-2:31) This invention relates to a new Integrated Routing/Mapping Information System (IRMIS) for travel planning, travel guidance, and recording travel

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	locations and paths during business or recreational use, particularly in regard to the linkage of small, memory-limited computing systems with personal and/or mainframe computers. The invention may include the capability to provide an interactive computer travel-planning guide for determining a route between a user selected travel origin and travel destination following user selected intermediate waypoints along the way. System software determines the preferred travel route within user selected constraints. The user can also select among a plurality of types of geographically locatable points of interest (POIs) within a user-defined region of interest along the travel route. A database enables the incorporation of travel information such as graphics, photos, videos, animations, audio and text information about the user selectable POIs along the way as well as about transportation routes and waypoints. From the user selected and user-defined transportation routes, waypoints, and POIs along the travel route, the software constructs a user customized multimedia travelog for preview on a computer display of the user-defined travel route. Based on the user-customized previews, the travel route including transportation routes, waypoints, and points of interest can be updated or changed according to the user preferences and choices. Modified travel routes can be previewed with further multimedia travelogs until a satisfactory travel route is achieved. The user can output a travel plan, i.e.; downloading waypoints electronically and/or printing out maps with route indications and text travel directions. (*Obradovich* at 16:1-53) FIG. 20 illustrates a list of GPS encoded data for a restaurant listing of restaurants in a requested area. This list may have been furnished by third parties or a data provider. The PCD has stored this information in digital format and is displayed on a GEO coded map, GIFF map or any other map the PCD stored in memory or receives from a third party or data provider. The information can be arranged by the PCD using criteria enabling the user unlimited access to the data. If the user chooses to navigate to these locations singularly or as a group, the GPS engine performs these functions, allowing a user of the device to accurately travel to the desired restaurant. As shown in FIG. 21, the PCD can use any scale of map or combinations and other types of maps as shown. The user of the PCD selects certain maps for storage and recalls same when needed for navigation.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	By way of example, the user's device could have a local Los Angeles street map, an interstate map (as shown in FIG. 21), and a New York city map in device memory. The user could navigate to the airport using the GPS functions and stored Los Angeles map, fly to New Jersey, rent a car and navigate to New York using the interstate map and, finally, find a specific restaurant in New York City by using the third map stored in PCD memory. As shown in FIG. 22, the PCD contains a map with various waypoint locations the user has selected. These waypoints are both standard waypoints 221 and linked waypoints 222. The waypoints are indicated by a marker on the display. Standard waypoints indicate identifiable locations of interest. Linked waypoints have additional data associated with the waypoint. The additional data may be text data, visual data such as a photographic image of the waypoint, or an audio data file. When the marker for the linked waypoint is selected using the touch screen or other input device, the processor determines if the additional data associated with the waypoint is available in the PCD memory. If the additional data is not available in the PCD memory, the PCD automatically requests the additional data from a data provider. Once the additional data is available, the PCD displays or otherwise makes use of the additional data. Using the map of FIG. 22, the user could navigate to a school, restaurant, bank, gas station, government office using the PCD to interpolate using spatial query techniques to find the best routes to each location. The PCD can re-collate the list for the most efficient route using the application and GPS engine modules. Using software programming techniques and math formulas, persons skilled in the arts will utilize spatial analysis queries and functions to determine best routing and "closest to" scenarios. In addition, centroid interpolation functions and match-rate comparison functions used by the GEO coding community will further enhance this application's ability to universally communicate with other systems.

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
17. The handheld device of claim 9, wherein the field management program includes an inventory program accessible from the handheld device and configured to enable access to inventory data stored in the computing device.	One skilled in the art would understand Stephenson as disclosing this feature. In one embodiment described by Stephenson, packages are scanned as they are loaded into the vehicle and that package data is transmitted to the central storage facility. One skilled in the art would consider package data for packages loaded onto a vehicle to be "inventory data." Moreover, one skilled in the art would consider a program handling this inventory data would be an "inventory program" within the plain meaning of the term. Given the data collection device has access to the central storage facility, one skilled in the art would further consider Stephenson as teaching "an inventory program accessible from the handheld device and configured to enable access to inventory data stored in the computing device." *See*, *e.g.*, Stephenson, 11:62-12:5, 9:55-67, 5:37-44. (11:62-12:5) Conveyor device 113 is preferably connected to a conveyor belt that is located in a hub location where for example package delivery vehicles transfer packages. Couriers or other package delivery personnel scan packages with a data collection device 101 when the packages are transmitted along a conveyor belt. The information collected by the data collection device is then preferably transmitted to conveyor device 113, which stores the package information and transmits it to the central data storage facility 109. In this way the central data storage facility 109 receives virtually real-time information about the status of packages while in transit. (9:55-67) One of the intermediate storage devices is a docking station 107. FIG. 8 is a schematic diagram of a docking station in accordance with the present invention. Docking station 107 is preferably located at a central shipping location, for example, where the courier goes to unload or pickup packages. The docking station 107 preferably comprises a number of ports 801-803, each of which are capable of receiving a data collection device 101. Via one of an infrared communications link or microradio, the data stored in the data collection device 101 is transmitted to a data storage device in the docking station 107, which subsequently transmits the data to the central data storage facility 109. (5:37-44) Primary to the integrated system of the present invention is the data collection

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	device 101, which is used primarily to collect and store information about packages to be shipped. However, in accordance with the present invention, the data collection device 101 is also capable of performing other, secondary, functions related to package delivery via communications with one or more of the peripheral devices 102-105. One skilled in the art would consider this feature obvious over the combination of Stephenson and Wright. Wright discloses a data synchronization system for a portable client computer that includes an inventory program (inventory service 192) accessible from a handheld device and configured to enable access to inventory data (inventory data source 182) stored in a computing device. See, e.g., Wright, 6:46-56, 7:1-10, 7:45-53, 8:45-65. One skilled in the art would combine the teachings of Stephenson with Wright for the purpose of providing inventory data to the delivery driver in Stephenson. Doing so would be nothing more than combining known elements to yield predictable results. (*Wright* at 6:46-56) Because mobile clients cannot maintain a persistent connection to the FL server 132, they must "connect" for short periods of time to perform a specified operation or set of operations. Each of these connections is referred to as a "session", during which time a specified set of operations are performed between the FL client and FL server. Examples of these sessions include connecting to retrieve work orders, checking inventory on a product, or retrieving a monthly price list update. Each "session" encompasses connecting the remote host, performing a specific task or set of tasks, and then disconnecting from the host. Because the connection times must be short, the FL client and FL server need to be able to perform the required tasks without user intervention. This is very different from a persistent connection based client/server model where the connection exists the entire time the application is used, and data is only retrieved when the user requests it.
18. An apparatus,	Although expressed in means-plus-function terms, claim 18 recites features substantially identical to those of claims 1-14, 16-17. The term "means for establishing a two-way communication

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
comprising: means for establishing a two-way communication channel between a server and at least one handheld device located at a field geographically distant from the server;	channel between a server and at least one handheld device located at a field geographically distant from the server," may correspond to the "communication module 42," "integrated modem 40," or "communications link 38" of the '581 patent. *See*, Barbosa, Figs. 3-4, 13; 6:21-50, 11:67-12:7, 12:36-47. Stephenson discloses "means for establishing a two-way communication channel" in the same manner it discloses a communications module (claims 7-10). Stephenson and Luo, in view of Mutler, and Stephenson and Luo, in view of Riggins, teach accessing a server in the same manner as disclosed in claim 5. Stephenson's components that establish the two-way communication channel is equivalent to the portions of the '581 patent identified above. *See*, *e.g.*, the disclosures cited above for claims 7-10 and 15.
means for accessing a program stored at the server to enable an assessment at the field using the at least one handheld device;	The term "means for accessing a program stored at the server to enable an assessment at the field using the at least one handheld device," may correspond to the "communication module 42," "integrated modem 40," or "communications link 38" of the '581 patent. *See*, Barbosa, Figs. 3-4, 13; 6:21-50, 11:67-12:7, 12:36-47. Stephenson discloses this limitation for the same reasons discussed above with regard to the "accessing an assessment program" step of claim 1 and the "communication module" feature of claim 7. Stephenson and Luo, in view of Mutler teaches accessing a server in the same manner as disclosed in claim 5. Stephenson's components for accessing a remote program are equivalent to the portions of the '581 patent identified above. *See*, *e.g.*, the disclosures cited above for claims 1 and 7.
means for managing data collected at the field using the at least one handheld device responsive to program;	The term "means for managing data collected at the field using the at least one handheld device responsive to program," may correspond to the "processor 22," "ram 26," and to the "field data management program" of the '581 patent. *See*, Barbosa, Fig. 2, 6:5-9, 7:50-8:12. This feature of claim 18 is so broad as to encompass a memory or a memory with a "field data management program" stored thereon. Stephenson discloses a memory that can store programs on the data collection device for processing and managing the collected data. *See* the disclosures cited

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	above for claim 7 and 17. And, the programs when executed by a processor in Stephenson's data collection device both manage and enable the collection of field data. *See* the disclosures cited above for claim 7. The structure in Stephenson is equivalent to the corresponding structure disclosed in the '581 patent because there are no substantial differences between Stephenson's memory, processor, and the client application, and the memory, processor, and field data management program of the '581 patent.
means for determining a geographic location of the at least one handheld device; and	The term "means for determining a geographic location of the at least one handheld device," may correspond to the "position module 46" of the '581 patent. *See*, Barbosa, Fig. 5; 6:51-67. Stephenson in view of Gildea teaches this feature for the reasons discussed above with regard to the "position module" of claims 1 and 7. *See* the disclosures cited above for claims 1 and 7. Gildea's position-tracking devices, such as GPS, are substantially equivalent to the structure of the '581 patent identified above.
means for enabling communicating the data collected at the field and the geographic location of the at least one handheld device between the at least one	The term "means for enabling communicating the data collected at the field and the geographic location of the at least one handheld device between the at least one handheld device and other devices or the server," may correspond to the "communication module 42," "integrated modem 40," or "communications link 38" of the '581 patent. *See*, Barbosa, Figs. 3-4, 13; 6:21-50, 11:67-12:7, 12:36-47. Stephenson in view of Gildea teaches this feature for the reasons discussed above with regard to claim 1 and the "wherein" clause of claim 7. *See* the disclosures cited above for claims 1 and 7. Stephenson and Gildea's components that communicate the collected data and

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
handheld device and other devices or the server.	geographic location are substantially equivalent to the portions of the '581 patent identified above.
19. The apparatus of claim 18, further comprising means for tracking a location of the at least one handheld device.	The term "means for tracking a location of the at least one handheld device," may correspond to the "position module 46" of the '581 patent. *See*, Barbosa, Fig. 5; 6:51-67. Stephenson and Gildea in view of DeLorme or Obradovich teach this feature for the reasons discussed above with regard to the "position module" of claim 7 and navigable instructions in claim 16. *See* the disclosures cited above for claims 7 and 16. Gildea's position-tracking devices, such as GPS, are substantially equivalent to the structure of the '581 patent identified above.
20. The apparatus of claim 18, further comprising means for enabling updating field operation assignments for each of the at least one handheld device.	The term "means for enabling updating field operation assignments for each of the at least one handheld device," may correspond to the "processor 22," "ram 26," and to the "method relating to project management," of the '581 patent. *See*, Barbosa, Figs. 1, 9; 10:45-11:12. Stephenson in view of Khalessi also renders this feature obvious. Khalessi discloses updating a database to indicate that an assignment has been assigned to a field crew, and notifying the field crew of the assignment. Khalessi, Abstract; Figs. 1-18; 1:12-2:44, 3:33-7:28, 9:20-10:25, 11:59-12:61; claims 1-27. A skilled artisan would have found it obvious to modify Stephenson to include these features of Khalessi so that the modified system could manage and assign package pickups and deliveries for users in the field. (*Khalessi* 3:33-49) The present invention provides a multi-crew management system. More particularly the management system is an automated system for the distribution of work orders and related materials to field personnel dispersed over a wide geographic area. A work order, which may be any type of description of a particular task, are assigned using a centralized enterprise computing system and are communicated over a wireless network to field personnel having mobile computing units. Field personnel can use a mobile field unit to access the enterprise computing system and gather information about the work order as

'581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	well as to update the enterprise computing system with details regarding the status of the work order. Thus, a system in accordance with the present invention provides two-way communication and work order automation with minimum dispatcher/operator interference. (*Khalessi* 4:35-46) Each field crew is assigned a mobile field unit 52. Thus, although only one is shown in FIG. 1, numerous mobile field units 52 may be deployed and operating at once. As noted, each mobile field unit 52 has an IP address assigned to it. Further, enterprise computing system 50 comprises a database of entries indicating for each field unit, the field crew which has the unit. Thus, when a work order is assigned to a particular field crew, the inventive system automatically routes the appropriate commands and data as described below to the appropriate mobile field unit 52. Field crews are free to access enterprise computing system 50 to gather data that may be helpful in completing the assigned work order.
24. The apparatus of claim 18, further comprising: means for providing data to the server for analysis; and means for retrieving enhanced data from the server for use in conducting the field assessment.	The term "means for providing data to the server for analysis," may correspond to the "communication module 42," "integrated modem 40," or "communications link 38" of the '581 patent. *See*, Barbosa, Figs. 3-4, 13; 6:21-50, 11:67-12:7, 12:36-47. The corresponding structure in claim 24 merely refers to means for providing data to a server and means for retrieving data from the server. This is disclosed in the '581 patent as corresponding to the communication module 42 in Fig. 3, for example. For the reasons discussed above with regard to the "communication module" limitation of claim 7 and "server" in claim 5, Stephenson, Stephenson/Luo/Mutler, and Stephenson/Luo/Riggins teach this feature. *See* the disclosures cited above for claims 5 and 7. Moreover, Stephenson, Stephenson/Luo/Mutler, and Stephenson/Luo/Riggins also disclose that the communication module in Stephenson's data collection device provides data to a server (e.g., a central computer) for analysis (e.g., determining delivery, etc.), and retrieving enhanced data from the server (e.g., updated package data status showing delivered). *See* the disclosures cited above for claims 1 and 7; *see also*, Stephenson, 9:29-49.

’581 Patent Claims	Disclosure by Stephenson and/or Other Prior Art
	(9:29-49) It is also contemplated that in accordance with the present invention, the admonishment device 105 can send a communication to the data collection device 101 advising the courier whether there are any packages in a particular storage facility. Such a communication would preferably be sent via communications port 701. By receiving such a communication the courier would avoid having to physically check the storage facility if there are no packages there. It is also contemplated that admonishment device 105 could communicate the status of the storage facility to a central dispatch station, which could then dispatch such information to the data collection device 101 of the courier responsible for the particular storage facility. In accordance with the present invention, the communication from the data collection device 101 may activate circuitry in the admonishment device 105 to rotate a wheel 705a, 705b or otherwise cause a visual indication regarding the status of pickup and the time of last pickup. In addition, it is also contemplated that the indications 702 and 703 can be provided by an informational display, which can be one of an LCD, a series of LEDs, or a vacuum florescent display. Stephenson’s components that communicate data to and retrieve data from the server are substantially equivalent to the portions of the ’581 patent identified above.